From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

Commissioner
US Department of Commerce
United States Patent and Trademark
Office, PCT
2011 South Clark Place Room

CP2/5C24 Arlington, VA 22202

Arlington, VA 22202 ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

International application No. PCT/GB00/02712

Date of mailing (day/month/year)

15 March 2001 (15.03.01)

International filing date (day/month/year)

14 July 2000 (14.07.00)

Applicant's or agent's file reference AS/AM/P10844PC

Priority date (day/month/year) 15 July 1999 (15.07.99)

Applicant

CHURCHILL, Andrew, Philip

1.	The designated Office is hereby notified of its election made:
	X in the demand filed with the International Preliminary Examining Authority on:
	01 February 2001 (01.02.01)
	in a notice effecting later election filed with the International Bureau on:
2.	The election X was
	was not
	made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland

Authorized officer

Pascal Piriou

Facsimile No.: (41-22) 740.14.35

Telephone No.: (41-22) 338.83.38



PATENT COOPERATION TREATY

From the INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

MCCALLUM, William P. CRUIKSHANK & FAIRWEATHER 19 Royal Exchange Square Glasgow G1 3AE GRANDE BRETAGNE

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY **EXAMINATION REPORT**

(PCT Rule 71.1)

Date of mailing (day/month/year)

02.11.2001

Applicant's or agent's file reference AS/AM/P10844PC

International application No. PCT/GB00/02712

International filing date (day/month/year) 14/07/2000

Priority date (day/month/year)

IMPORTANT NOTIFICATION

15/07/1999

Applicant

CHURCHILL, Andrew Philip

- 1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application
- 2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
- 3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/

European Patent Office D-80298 Munich

Tel. +49 89 2399 - 0 Tx: 523656 epmu d

Fax: +49 89'2399 - 4465

Authorized officer

Goenechea Olmos, A

Tel.+49 89 2399-2664



PATENT COOPERATION TREATY

DEC'D 0 6 NOV 2001

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant	's or ac	gent's file reference				
AS/AM/			FOR FURTHER A	CTION	See Notification Preliminary	ation of Transmittal of International Examination Report (Form PCT/IPEA/416)
		olication No.	International filing date	(day/mont		Priority date (day/month/year)
PCT/GE			14/07/2000	(Gay/morn	vycary	15/07/1999
Internation E21B21		tent Classification (IPC) or nat	ional classification and IF	PC		
Applicant				-		
CHURC	HILL	, Andrew Philip				
1. This and	interr is trar	national preliminary examir esmitted to the applicant ac	nation report has been coording to Article 36.	prepared	d by this Inter	rnational Preliminary Examining Authority
2. This	REPO	ORT consists of a total of	8 sheets, including thi	s cover s	heet.	
	oeen a (see F	eport is also accompanied amended and are the basi Rule 70.16 and Section 60 exes consist of a total of	s for this report and/or 7 of the Administrative	sheets c	ontaining rec	, claims and/or drawings which have stifications made before this Authority e PCT).
3. This	report ⊠	contains indications relati	ing to the following iter	ns:		
II		· ·	•			
III		Non-establishment of op	inion with regard to no	veltv. inv	entive step a	nd industrial applicability
IV		Lack of unity of invention)	,,	omiro otop a	na maddia applicability
V	Ż		der Article 35(2) with re	egard to r	novelty, inver	ntive step or industrial applicability;
VI		Certain documents cited	I			
VII	×	Certain defects in the inte	ernational application			
VIII	×	Certain observations on t	the international applic	cation		
Date of sub	missio	n of the demand		Date of c	ompletion of th	nis report
01/02/20	01			02.11.20	01	
	exami	address of the international ning authority:		Authorize	ed officer	SO ISONS MIDICIAN
<u>)</u>))	D-80	pean Patent Office 298 Munich +49 89 2399 - 0 Tx: 523656 e	epmu d	George	scu, M	
		+49 89 2399 - 4465				RA TOPE IS

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB00/02712

•	an	e receiving Office in	response to an invitation under Article 14 are referred to in this report as "originally filed" o this report since they do not contain amendments (Rules 70.16 and 70.17)):						
	1-2	24	as originally filed						
	Cla	aims, No.:							
	1-3	35	as originally filed						
	Dr	awings, sheets:							
	1/6	6-6/6	as originally filed						
2.	Wit	th regard to the lan g guage in which the i	uage, all the elements marked above were available or furnished to this Authority in the nternational application was filed, unless otherwise indicated under this item.						
	The	ese elements were a	available or furnished to this Authority in the following language: , which is:						
		the language of a	ranslation furnished for the purposes of the international search (under Rule 23.1(b)).						
		the language of pu	blication of the international application (under Rule 48.3(b)).						
		the language of a t 55.2 and/or 55.3).	ranslation furnished for the purposes of international preliminary examination (under Rule						
3.	Wit inte	h regard to any nuc rnational preliminan	leotide and/or amino acid sequence disclosed in the international application, the y examination was carried out on the basis of the sequence listing:						
		contained in the int	ernational application in written form.						
		filed together with t	he international application in computer readable form.						
		furnished subsequently to this Authority in written form.							
		furnished subsequently to this Authority in computer readable form.							
		The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.							
		The statement that listing has been fur	the information recorded in computer readable form is identical to the written sequence nished.						
4.	The	amendments have	resulted in the cancellation of:						
		the description,	pages:						
		the claims,	Nos.:						

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

sheets:

☐ the drawings.

International application No. PCT/GB00/02712

_	ge,	
	This report has been considered to go bey	established as if (some of) the amendments had not been made, since they have been rond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

- 6. Additional observations, if necessary:
- V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- 1. Statement

5.

Novelty (N) Yes: Claims 8, 9, 15-17, 20, 21, 32, 35

No: Claims 1-7, 10-14, 18, 19, 22-31, 33, 34

Inventive step (IS) Yes: Claims

No: Claims 1-35

Industrial applicability (IA) Yes: Claims 1-35

No: Claims

2. Citations and explanations see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted: see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made: see separate sheet

Reference is made to the following documents:

D1: US 4 645 006 A

D2: US 2 128 352 A

D3: US 5 499 687 A

D4: EP 0 732 479 A

V - Reasoned statement under Art. 35(2)

V-1 Claim 1

D1, which is considered as the closest prior art, describes a fluid flow actuated downhole tool (10) being configurable in at least a first tool configuration (fig.1) and a second tool configuration (fig.2), the tool comprising:

a tubular housing (14)

an activating sleeve (98, 100, as a sleeve is a tubular element), the housing being adapted to catch the sleeve when the sleeve is dropped from surface (column 5, lines 24-26) and the caught sleeve permitting actuation of the tool between the first and second tool configurations (fig.2); and flow restriction means (144, 118) for permitting fluid flow actuation (fig.2, as the restriction means have smaller diameters than that of the pipe 20, their hydraulic resistance will increase the pressure acting on the sleeve 66 of the tool actuating it) of the tool when the activating sleeve has been caught in the body (fig.2).

The subject-matter of claim 1 is therefore not new and the claim does not meet the novelty requirement of Art. 33(2)PCT.

V-2 Claims 2 to 6

The features of the claims 2 to 6 are known from D1:

- claim 2 see fig.2
- claim 3 flow restrictions 144, 118
- claim 4 implicit feature (PCT\GL\C IV 7.2) it allows access to the annulus (fig.2)
- claim 5 see fig.1
- claim 6 element 132

Therefore, claims 2 to 6 do not meet the requirement for novelty of Art. 33(2) PCT.

V-3 Claim 7

The features of claim 7 are known from D1 as they reflect the operation mode of the tool of claim 1.

Therefore, claim 7 does not meet the requirement for novelty of Art. 33(2) PCT.

V-4 Claims 8 to 11

The features of claims 8 to 11 relate to features known from D1 (claims 10 and 11) or to features which do not appear to define subject-matter involving an inventive step (claims 8 and 9) in combination with the features of the claims to which they append.

Therefore, claims 8 and 9 do not meet the requirement for inventive step of Art. 33(3) PCT and claims 10 and 11 do not meet the requirement for novelty of Art. 33(2) PCT as they can depend on claim 7.

V-5 Claim 12

The features of claim 12 are known from D1 since the step (e) is possible for each of the valves (170, 172, 174, 176, 178) of the tool.

Therefore, claim 12 does not meet the requirement for novelty of Art. 33(2) PCT.

V-6 Claims 13, 14 and 18

The features of the claims 13, 14 and 18 are known from D1 (see claims 1 and 2).

Therefore, claims 13, 14 and 18 do not meet the requirement for novelty of Art. 33(2) PCT.

EXAMINATION REPORT - SEPARATE SHEET

V-7 Claims 15 to 17

The features of claims 15 to 17 are merely normal design possibilities (see for example D2, fig.6) used in order to avoid unexpected actuation.

Therefore, claims 15 to 17 do not meet the requirement for inventive step of Art. 33(3) PCT.

V-8 Claim 19

The features of claim 19 are known from D1 (fig.1 and 2). Therefore claim 19 does not meet the requirement for novelty of Art. 33(2) PCT.

V-9 Claims 20 to 23

The features of claims 20 to 23 relate to features known from D1 (claims 22 and 23) or to features which do not appear to define subject-matter involving an inventive step (claims 20 and 21) in combination with the features of the claims to which they append.

Therefore, claims 20 and 21 do not meet the requirement for inventive step of Art. 33(3) PCT and claims 22 and 23 do not meet the requirement for novelty of Art. 33(2) PCT as they can depend on claim 19.

V-10 Claim 24

The features of claim 24 are known from D1 (fig.1, insert 12 and means 88). Therefore, claim 24 does not meet the requirement for novelty of Art. 33(2) PCT.

V-11 Claims 25 to 31 and 33

The features of the claims 25 to are known from D1:

- claim 25 fig.1 and 2
- claim 26 fig.1 and 2
- claim 27 66, 12

- claim 28 12
- claim 29 spring 88 releases the sleeve 66 to move when the pressure applied is superior to the elastic force exerted
- claim 30 fig.2
- claim 31 66
- claim 33 98, 100

Therefore, claims 25 to 31 and 33 do not meet the requirement for novelty of Art. 33(2) PCT.

V-12 Claim 32

The feature of claim 32 is merely an alternative to the insert of D1 which is described also in D3 (fig.2). Therefore, claim 32 does not meet the requirement for inventive of Art. 33(3) PCT.

V-13 Claim 34

As the nature of the indexing of the tool is not unequivocally defined, the insert 12 can be seen as well as an indexing means which allow the actuation of the tool between said two positions. Therefore, claim 34 does not meet the requirement for novelty of Art. 33(2) PCT.

V-14 Claim 35

D4 describes also a downhole tool comprising an indexing mechanism based on a cam arrangement which provides a plurality of axial displacement positions between the parts of the tool (column 4, lines 32-35 and 40-41). Even if the tool of D4 comprises a valve stem instead of a tubular sleeve, the purpose of using the cam arrangement is to restrict the flow through the tool (column 4, lines 43-45). In order to have a better maintaining mechanism the skilled man would use the teaching of D4 to the tool of D1 arriving to the subject-matter of claim 35. Therefore, claim 35 does not meet the requirement for inventive step of Art. 33(3) PCT.

VII - Certain defects

- VII-1 The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).
- Claim number "23" referred to on the first line of claim 29 should apparently VII-2 read "24".
- VII-3 Contrary to the requirements of Rule 5.1(a)(ii)PCT, the relevant background art disclosed in documents D1, D4 is not mentioned in the description, nor are these documents identified therein.

VIII - Certain observations (clarity)

VIII-1 Although apparatus claims 1 and 24 and method claims 7, 12 and 19 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter in their category and to differ from each other only with regard to the definition of the subject-matter for which protection is sought. The aforementioned claims therefore lack conciseness. Moreover, lack of clarity of the claims as a whole arises, since the plurality of independent claims makes it difficult to determine the matter for which protection is sought. Hence, the aforementioned claims do not meet the requirements of Article 6 PCT.

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INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference AS/AM/P10844PC		of Transmittal of International Search Report 220) as well as, where applicable, item 5 below.
International application No.	International filing date (day/month/year)	(Earliest) Priority Date (day/month/year)
PCT/GB 00/02712	14/07/2000	15/07/1999
Applicant CHURCHILL, Andrew Philip	,	
This International Search Report has been according to Article 18. A copy is being tra	_	hority and is transmitted to the applicant
X It is also accompanied by	a copy of each prior art document cited in this	s report.
Basis of the report		
a. With regard to the language, the language in which it was filed, unl	international search was carried out on the ba ess otherwise indicated under this item.	sis of the international application in the
the international search w Authority (Rule 23.1(b)).	as carried out on the basis of a translation of	the international application furnished to this
b. With regard to any nucleotide an was carried out on the basis of the contained in the internation filed together with the internation furnished subsequently to the statement that the sub international application a	e sequence listing: onal application in written form. omational application in computer readable for o this Authority in written form. o this Authority in computer readble form. osequently furnished written sequence listing of sequence listing of series.	
1	nd unsearchable (See Box I).	
3. Unity of Invention is lac	אווא (ספס בטא וון).	
4. With regard to the title,		
the text is approved as su The text has been establis DOWNHOLE BYPASS VALVE	ibmitted by the applicant. Shed by this Authority to read as follows:	
5. With regard to the abstract, The text is approved as sum that xt has been establis	shed, according to Rul 38.2(b), by this Autho	nity as it appears in Box III. The applicant may,
within on month from th	date of mailing of this international search re	oport, submit comments to this Authority.
6. The figure of the drawings to be publicated by the applicant fail because the applicant fail because this figure better	icant.	Non of the figures.

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 E21B21/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) IPC 7 E218

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

Citation of document, with Indication, where appropriate, of the relevant passages	Relevant to claim No.
US 2 128 352 A (THOMAS A. CREIGHTON) 30 August 1938 (1938-08-30)	1,2,4,5, 7-10, 12-30
the whole document	32,34,35
US 4 645 006 A (TINSLEY PAUL J) 24 February 1987 (1987-02-24) column 5. line 7-62: figures 1,2	1-14, 18-28, 31,33
US 5 499 687 A (LEE PAUL B) 19 March 1996 (1996-03-19) abstract; figures 2-7	32
EP 0 732 479 A (HALLIBURTON CO) 18 September 1996 (1996-09-18) page 16, line 18-56; figures 3,5,6	34,35
	US 2 128 352 A (THOMAS A. CREIGHTON) 30 August 1938 (1938-08-30) the whole document US 4 645 006 A (TINSLEY PAUL J) 24 February 1987 (1987-02-24) column 5, line 7-62; figures 1,2 US 5 499 687 A (LEE PAUL B) 19 March 1996 (1996-03-19) abstract; figures 2-7 EP 0 732 479 A (HALLIBURTON CO) 18 September 1996 (1996-09-18)

Further documents are listed in the continuation of box C.	Patent family members are listed in annex.
Special categories of cited documents: A' document defining the general state of the art which is not considered to be of particular relevance E' earlier document but published on or after the international filing date L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) O' document referring to an oral disclosure, use, exhibition or other means P' document published prior to the international filing date but later than the priority date claimed	 "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family
Date of the actual completion of the international search	Date of mailing of the international search report
28 September 2000	06/10/2000
Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	van Berlo, A

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	ation) DOCUMENTS CONSIDERED TO BE RELEVANT Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Toovan to dan 140.
A	GB 688 727 A (REUBEN C. BAKER) 11 March 1953 (1953-03-11) page 5, column 1, line 23 -column 2, line 89; claim 1; figures 1-6	1,7,12, 19,24
A	GB 2 304 763 A (DRILLTECH SERVICES) 26 March 1997 (1997-03-26) figure 4	1,7,12, 19,24
A	US 5 782 305 A (HICKS JOHN MICHAEL) 21 July 1998 (1998-07-21) column 1, line 61 -column 2, line 4; figure 1 column 2, line 15-25 column 2, line 51 -column 3, line 8 column 3, line 45-52	1,7,12, 19,24
A .	WO 99 22114 A (BAIRD JEFFREY D) 6 May 1999 (1999-05-06) page 18, paragraph 3 page 21, paragraph 5 -page 22, paragraph 1 page 22, paragraphs 2,3; figures 1-6 page 24, paragraph 5 page 33, paragraphs 2,3	1,7,12, 19,24
A	GB 2 305 681 A (BAKER HUGHES INC) 16 April 1997 (1997-04-16) figures 1-5	1,7,12, 19,24
Α	EP 0 860 583 A (SCHLUMBERGER TECHNOLOGY BV; SCHLUMBERGER LTD (US)) 26 August 1998 (1998-08-26) abstract; claim 1	1,7,12, 19,24
P,A	WO 99 47789 A (CHURCHILL ANDREW PHILIP) 23 September 1999 (1999-09-23) page 12, line 7-11; figures 1,31,32	1,7,12, 19,24
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INTERNATIONAL SEARCH REPORT

formation on patent family members

International Application No PCT/GB 00/02712

Patent doc cited in sear			Publication dat		tent family ember(s)		Publicati n dat
US 2128	352	Α	30-08-1938	NONE	· · · · · · · · · · · · · · · · · · ·		
US 46450	006	Α	24-02-1987	NONE			
US 5499	 587	Α	19-03-1996	US	4889199	A	26-12-1989
EP 07324	 179		18-09-1996	US	5535767		16-07-1996
				AU	706618		17-06-1999
				AU	4808796		03-10-1996
				NO 	961030	A 	16-09-1996
GB 6887	27 	_A		NONE			
GB 2304	763	Α	26-03-1997	AU	710050		09-09-1999
				AU	6880096		19-03-1997
				CA	2230512		06-03-1997 27-05-1998
				EP WO	0843773 9708423		27-05-1998 06-03-1997
				NO	980850		24-04-1998
US 5782	305	Α	21-07-1998	NONE			
WO 9922	114	Α	06-05-1999	AU	1195299	A	17-05-1999
GB 2305	 581		16-04-1997	US	5609178	Α	11-03-1997
		•		AU	719036	В	04-05-2000
				AU	6584396		10-04-1997
			•	CA	2186173		29-03-1997
				NO 	964118 	A 	01-04-1997
EP 0860	583	Α	26-08-1998	US	5927402		27-07-1999
				AU	5294598		27-08-1998
				AU	5294698 718595		27-08-1998 20-04-2000
				AU AU	5299198		27-08-1998
				AU	5537698		27-08-1998
				CA	2229004		19-08-1998
				CA	2229105		19-08-1998
				CA	2229881		19-08-1998
				CA	2229882		19-08-1998
				CN	1199254		18-11-1998
				CN	1192502		09-09-1998
				CN	1199130		18-11-1998 18-11-1998
				CN	1199255 0860584		18-11-1998 26-08-1998
				EP EP	0860907		26-08-1998
				EP	0860902		26-08-1998
				NO	980682		20-08-1998
				NO	980683		20-08-1998
				NO	980684		20-08-1998
				NO	980685		20-08-1998
				US	5967816		19-10-1999
				US 	5871052 	A 	16-02-1999
WO 9947	789	Α	23-09-1999	AU	2740799	Α	11-10-1999